ASIS
talk slides

# Libraries of Silicon and Fiber Optics

Brewster Kahle

Thinking Machines Corporation

May 30, 1992

# Wide Area Information Servers
## Applications

- PeatMarwick DowJones Apple Thinking Machines Joint Project

- U.S. Geological Survey

- Network Services

- Thinking Machines Corporation

- Columbia Law Library

- WAIS on Internet

## Future Libraries

- Reading Rooms

- Corporate Libraries

# Peat Marwick / Dow Jones / Apple / Thinking Machines Joint Project
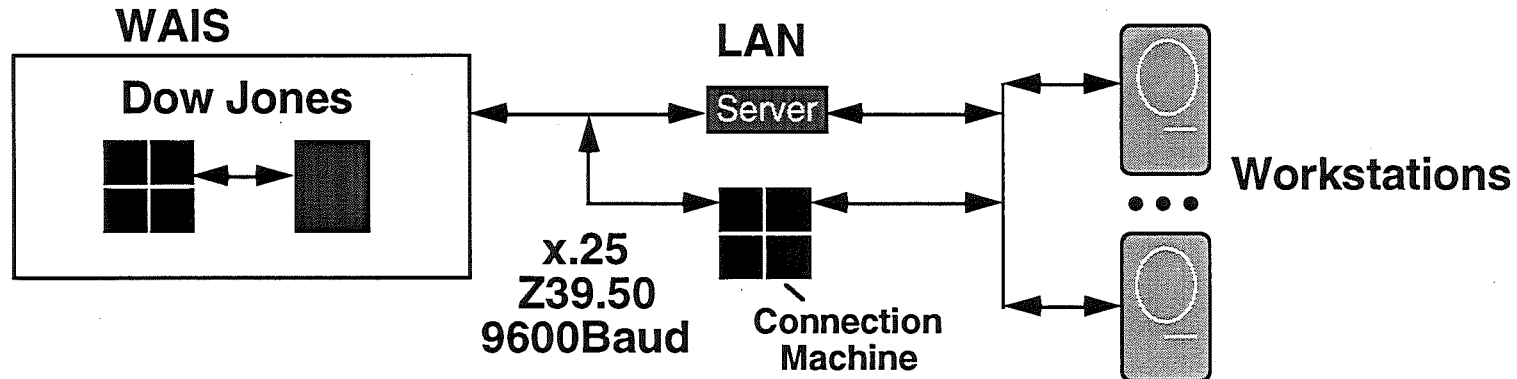
**Problem:**

Accountants and Tax Consultants need access to up-to-date information from inside the company and outside.

**Answer:**

Use a wide area network with WAIS servers to allow easy access to personal, corporate and published information.

# Peat Marwick System Structure

**WAIS**

**LAN**

**Dow Jones**

**Server**

Workstations

x.25
Z39.50
9600Baud

Connection
Machine

Operations:
  Archiving
  Queries
  Retrieval
IR Type:
  Broadcast
  Query by Example
Databases:
  Wall St Journal
  Barron's
  400 Business Mags

CM:
Operations:
  Queries
IR Type:
  enhanced relevance
  feedback
Databases:
  DowVision and memo's,
  mail, word processor files

Mac:
Operations:
  Human Int
  Retrieval
  Queries
  "Caching" Docs
  User Profiles
IR Type:
  Query by example
Databases:
  Personal Text
  Cached data
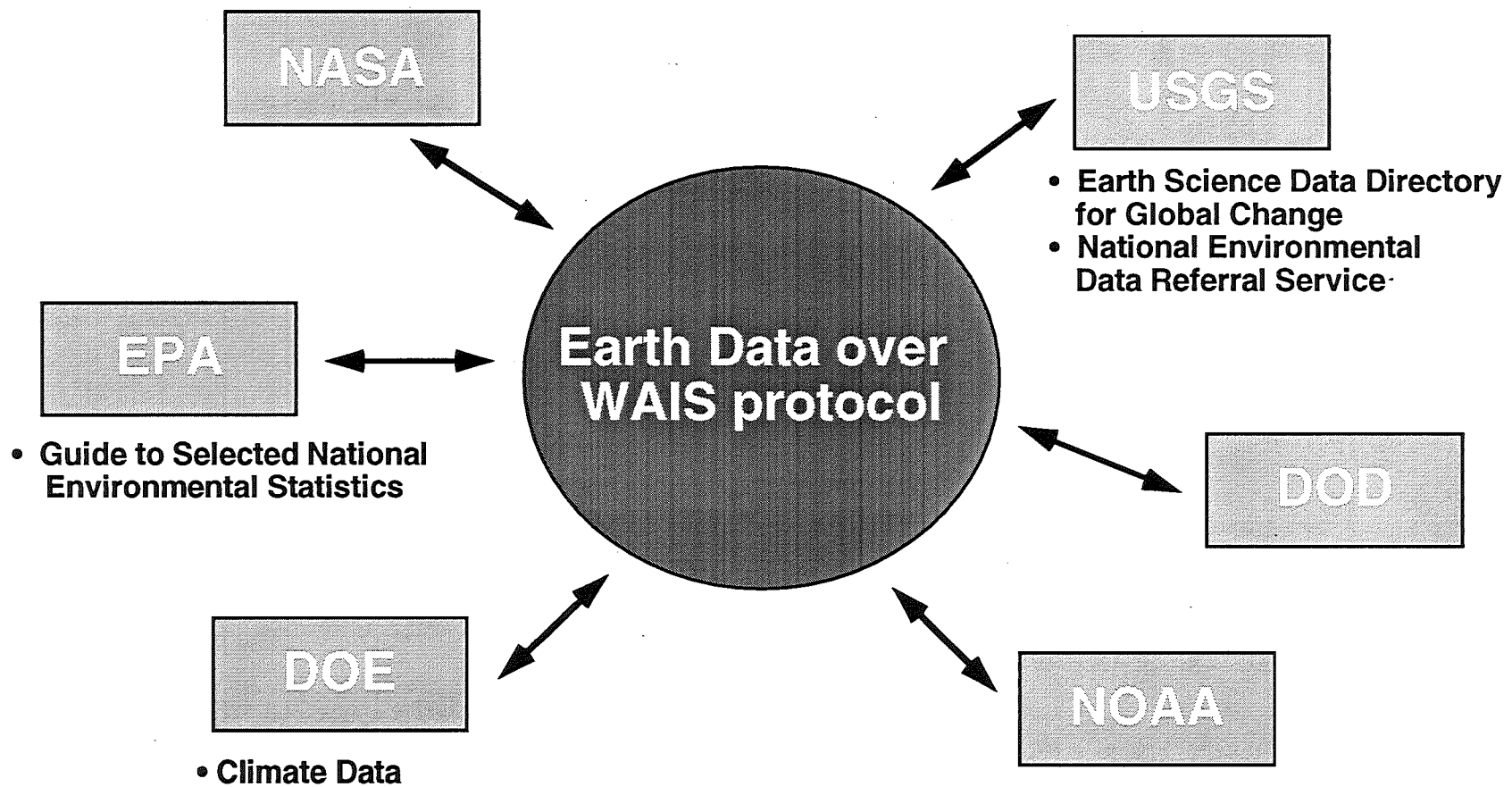
# U.S. Geological Survey
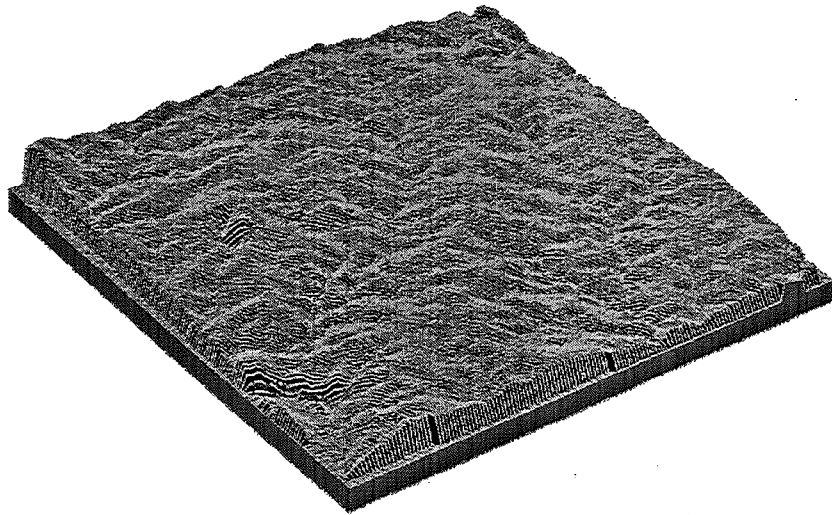
Problem with Earth Data:
- Data in multiple agencies
- Data in different systems

Answer:
- Use WAIS protocol
- Data stays with creators

# U.S. Geological Survey

NASA

USGS

- Earth Science Data Directory for Global Change
- National Environmental Data Referral Service

EPA

Earth Data over WAIS protocol

- Guide to Selected National Environmental Statistics

DOD

DOE

NOAA

- Climate Data

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# Network Services

**Problem:**

- **Finding resources on networks**

**Answer:**

- **Finding people: 5 different WAIS servers**
- **Finding software: 7 different WAIS servers**
- **Mailing lists and newsgroups: 3 WAIS servers**

  Operated by Ed Vialmetti, consultant to CICNet.
  - 15 widely used databases, 50 total
  - 500MBytes Unix workstation
  - 500 questions per day
  - 10 hours/week of Ed's time

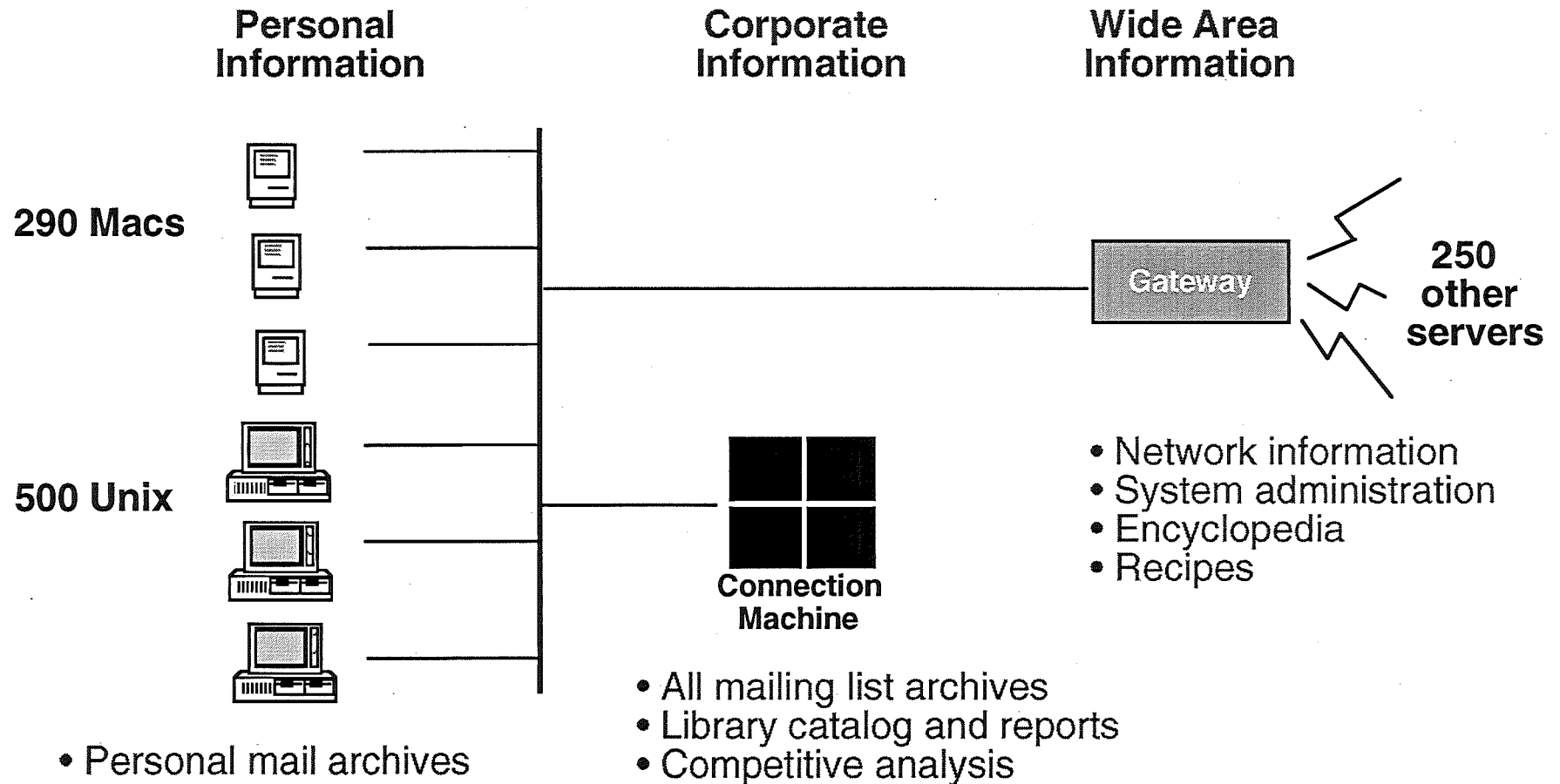# Thinking Machines Corporation
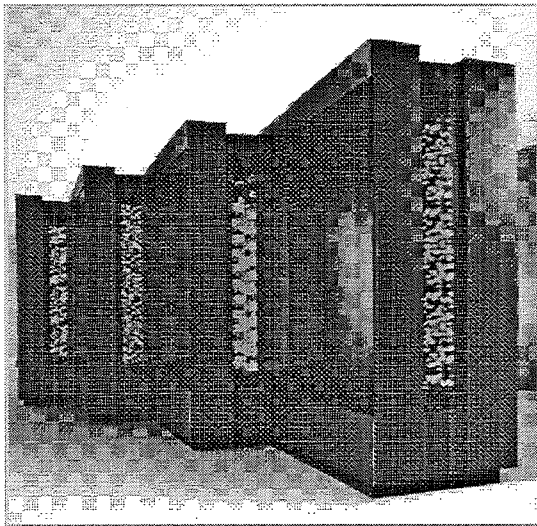


**Problem:**

- Keeping people informed even though the employees are all over the world and use different machines.

**Answer:**

- Use a Connection Machine as our corporate memory of company information and contacts.
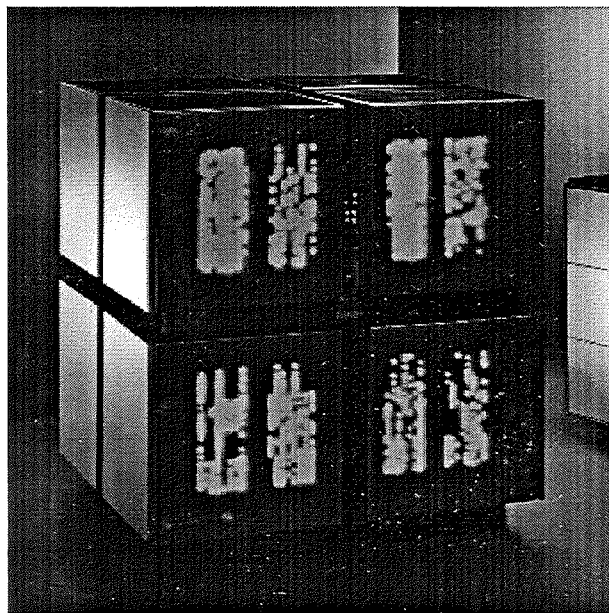
# Thinking Machines System

| Personal Information | Corporate Information | Wide Area Information |
|---|---|---|

**290 Macs**

**500 Unix**

Gateway

250 other servers

Connection Machine

• Network information
• System administration
• Encyclopedia
• Recipes

• Personal mail archives

• All mailing list archives
• Library catalog and reports
• Competitive analysis

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# Columbia Law Library

**Problem:**

- They need more space, but no more buildings are allowed.
- Their students want online access.

**Answer:**

- Use a Connection Machine for catalog and special collections of text and images.
- Use direct lines to Mead and WestLaw for other material.

# Columbia Law Library System



Reference Desk

Dormitories

Campus
Networks

- Nuremberg Trials
- Rosenberg Trial
- United Nations Publications
- Catalog

# WAIS: Wide Area Information Servers

**LAN Server**

Z39.50 over LAN

Z39.50 over

X.25, TCP/IP, Modem
Open Interconnection
Public Protocol

Dow Jones

Directory of Servers

Gateways to other nets

TV Guide etc.

Image Servers

Private Servers
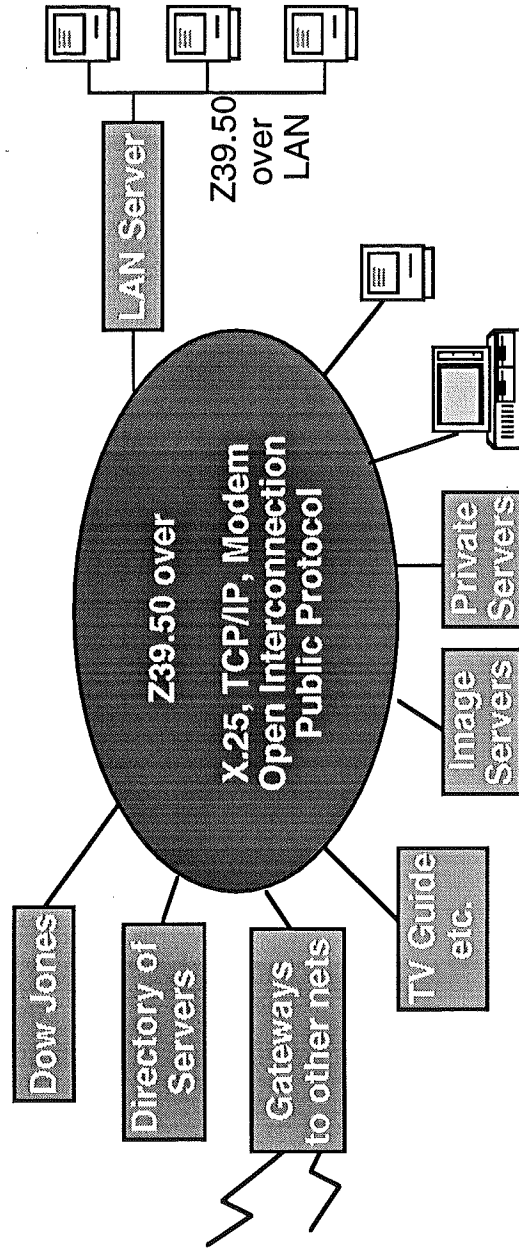
**Easy point-and-click interface to worldwide information**

# WAIS on Internet

- Over 14,000 users on the Internet

- Users in 28 Countries: Mexico, Singapore, Finland, Australia, . . .

- 250 Databases served from 12 Countries: Norway, Canada, UK, . . . New database every day.

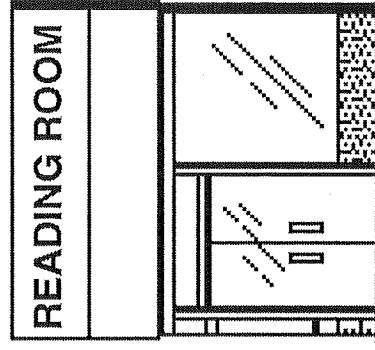- VT-100 Interface in California: 240 each day, 4,600 different machines
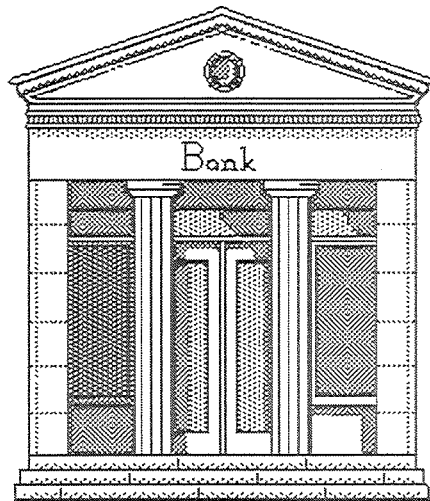
# Branch Libraries become Reading Rooms

BANK → became → ATM
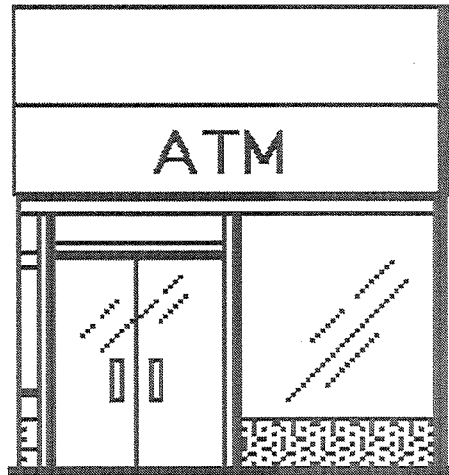
LIBRARY → might become → READING ROOM
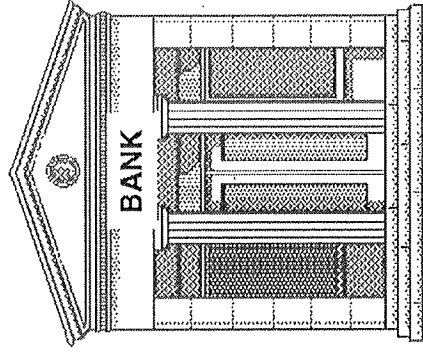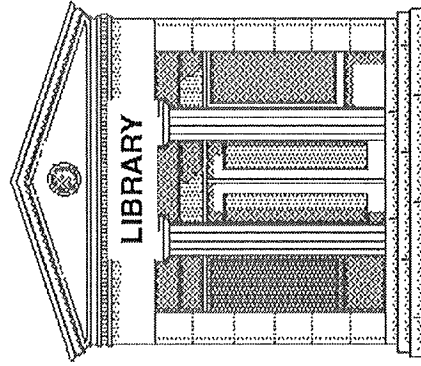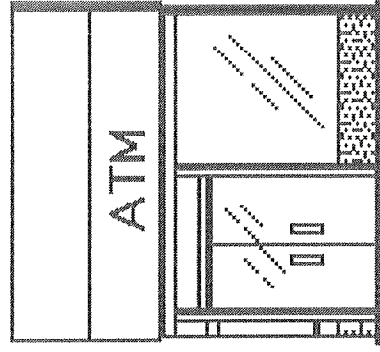
# Banks: Before and After

## Old Banks

- Centrally located
- Limited hours
- Local information
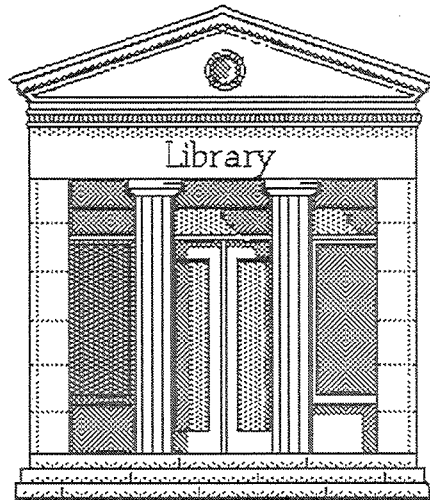- Physical savings books
- Used rarely

# Banks: Before and After

ATM

**Automatic Teller Machines**
- Everywhere
- Available all the time
- Global information
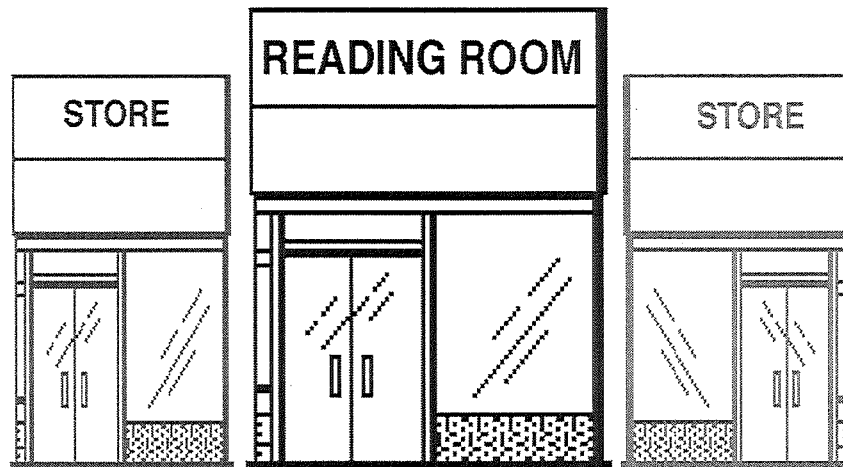- Access cards
- Constantly used

# Libraries: Now and Future?



## Libraries

- Centrally located
- Limited hours
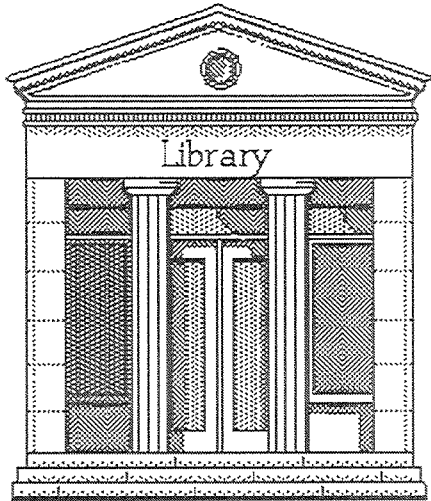- Local information
- Physical library cards
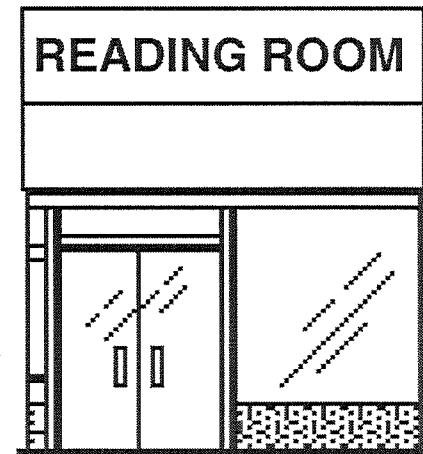
# Libraries: Now and Future?



## Reading Rooms

- Everywhere
- Available all the time
- Global information
- Access cards

# ... but still similar.

Helpful librarians

Comfortable reading chairs

Current fiction

Easy browsing

READING ROOM

Helpful librarians

Comfortable reading chairs

Current fiction

Easy browsing

# Conclusion: WAIS Applications

- Automating the "Good old boy network"

- Corporate memory

- Virtual libraries of text and images

- Helping customer support

- Government information sharing